MICHAŁ FEDEROWICZ Graduate School for Social Research Institute of Philosophy and Sociology Polish Academy of Sciences michal.federowicz@gmail.com

KRZYSZTOF BIEDRZYCKI Faculty of Polish Studies Jagiellonian University krzysztof.biedrzycki@onet.eu

AGATA HĄCIA Educational Research Institute aahacia@wp.pl KINGA BIAŁEK School of Education of PAFF and UW bialek.kinga1@gmail.com

## MARCIN KARPIŃSKI

Mathematics Laboratory in ROZWIŃ SIĘ Association, School of Education of PAFF and UW marc.karpinski@gmail.com

MAŁGORZATA ZAMBROWSKA

Mathematics Laboratory in ROZWIŃ SIĘ Association, Maria Grzegorzewska University m.zambrowska@gmail.com

MAGDALENA SWAT School of Education of PAFF and UW loskontos@gmail.com

Argumentation in School Education: the Case of Mother Tongue and Mathematics Classes. Results of an Empirical Exercise

The paper presents the importance of discursive argumentation in school education. Based on theoretical assumptions and previous extensive empirical studies the authors propose the case of a joint class of mathematics and the mother tongue, and discuss the results of a workshop with a group of 10–14 y-o students. The findings show that: 1) it is possible to develop young students' autonomous argumentation and at the same time follow a formal school programme; 2) this requires students' engagement in intensive class discussions in pairs, in small groups, and in the class as a whole; 3) discursive rather than formal argumentation allows children to develop mathematical reasoning, as well as broadening their understanding and interpretation of a poem. A key factor in students' engagement is the teachers' subtle support of the students' independent discussion. We call this the student-teacher micro-relation to distinguish it from a broader classical term of relations.

## Keywords:

argumentation, interpretation, proving, critical thinking, school education, didactic in mother tongue teaching, didactic in mathematics